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10/632,065	07/31/2003	Asif D. Gandhi	LUTZ 2 00544	2044

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EXAMINER	
HOLLIDAY, JAIME MICHELE	
ART UNIT	**PAPER NUMBER**
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/632,065	GANDHI ET AL.	
	Examiner	Art Unit	
	Jaime M. Holliday	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

In view of the Appeal Brief filed on November 11, 2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

1. Applicant's arguments filed in the Appeal Brief dated November 11, 2007 have been fully considered but they are not persuasive.

Applicants basically argue that Sarkar does not disclose "evaluating a reverse link loading by examining at least two resources within a first time period and broadcasting an availability of resources message in response to the evaluated reverse link loading." Examiner respectfully disagrees, because, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Sarkar clearly shows and discloses various scheduling mechanisms for allowing a

mobile station to transmit data on the reverse link. One class of reverse link transmission involves the mobile station making a request to transmit on the reverse link. The base station makes a determination of whether resources are available to accommodate the request, reading on the claimed "evaluating a reverse link loading by examining resources within a first time period." As previously stated in "Response to Arguments," it is inherent that this done within a finite period of time. A grant can be made to allow the transmission. This handshake between the mobile station and the base station introduces a delay before the reverse link data can be transmitted. For certain classes of reverse link data, the delay may be acceptable. Other classes may be more delay-sensitive, and alternate techniques for reverse link transmission are detailed below to mitigate delay (paragraph 71). The base station allocates a portion of the reverse link capacity to one or more mobile stations. A mobile station that is granted access is afforded a maximum power level. In the example embodiments described herein, the reverse link resource is allocated using a Traffic to Pilot (T/P) ratio. Since the pilot signal of each mobile station is adaptively controlled via power control, specifying the T/P ratio indicates the available power for use in transmitting data on the reverse link. A grant can be made to allow transmission. Individual and/or common grants may be allocated to one or more mobile stations, reading on the claimed "broadcasting an availability of resources message in response to the evaluated reverse link loading," (paragraph 71, 74,138). Sarkar further discloses that measurements of any signal or channel used in the system may be measured in the channel quality estimator 335 of a given embodiment. As described more fully below, power control channels are another

example. In a base station 104 or mobile station 106, signal strength estimations, such as received pilot power can be made. Channel quality estimates may be used to determine whether up or down power control commands are required to drive either the forward or reverse link power to the desired set point, reading on the claimed "examining at least two resources," (paragraph 61). Therefore, Examiner maintains previous rejections in view of the response above.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. **Claims 1-9, 11-17, 19-21 and 24-25** are rejected under 35 U.S.C. 102(e) as being anticipated by **Sarkar (US 2004/0160914)**.

Referring to **claims 1 and 13**, Sarkar discloses a method of wireless communication (page 2, paragraph 23, wireless communication system) comprising: evaluating a reverse link loading (page 5, paragraph 50, measures the reverse link pilot quality, congestion) by examining at least two resources within a first time period (page 7, paragraphs 71 and 75, determination of whether resources are available to accommodate request; scheduling algorithms determine T/P values in accordance with the number of stations, number and size of requests, expected average response time; a selection may be based on QOS, efficiency and throughput; page 6, paragraph 60, C/I measurements, power control messages etc); and broadcasting an availability of

resources message in response to the evaluated reverse link loading (paragraph 138, common grants).

Referring to **claim 2**, Sarkar discloses the method of Claim 1, wherein the step of examining comprises at least one of: examining the at least two resources in use; and examining the at least two resources leftover (page 6, paragraph 60, page 7, paragraph 75, channel quality indications, C/I measurements, power control messages, control channel messages; two of these resources are interpreted as being in use and the other two as leftover).

Referring to **claim 3**, Sarkar discloses the method of Claim 2, wherein the at least two resources examined comprise at least one a sector loading, total interference, received signal strength indication rise, per-leg and per-call frame error rate, physical channel erasure statistics and distributions, filtered loading estimate, transmit power and power control outer-loop set point compared to received Ecp/Nt (page 6, paragraph 60, channel quality indications, C/I measurements, power control messages, control channel messages).

Referring to **claim 4**, Sarkar discloses the method of Claim 3, wherein the step of evaluating a reverse link loading comprises computing the sector loading by measuring energy in a pilot signal over total noise (page 3, paragraph 36, signal to noise), DRC values (page 6, paragraph 60, control messages), channel gain (page 13, paragraph 120, if independent channel gain then different power level transmission; it is inherent that channel gain is measured) and used Walsh code space (page 3, paragraph 29, available Walsh codes); and the received signal strength indication rise corresponds

with a total received power at a sector (page 6, paragraph 61, signal strength estimations such as received pilot power), with a noise floor and with a threshold that varies to minimize adverse control reactions (page 7, paragraph 70, minimum quality of service guarantees, available transmit power, reduce signal to noise ratio).

Referring to **claim 5**, Sarkar discloses the method of Claim 4, comprising: sampling a received signal strength indication (page 15, paragraph 152, various parameters stored, adjusted, determined, fixed); and calculating a noise floor and the received signal strength indication rise in response to the sampling received signal strength indication (,page 15, paragraph 152, various parameters stored, adjusted, determined, fixed; page 7, paragraph 70, minimum quality of service guarantees, available transmit power, reduce signal to noise ratio).

Referring to **claim 6**, Sarkar discloses the method of Claim 4, wherein changing a longest idle user to at least one of inactive status and dormant status if a sector state is above a slow control threshold (page 5, paragraph 49, quality of reverse link maintained for active set).

Referring to **claim 7**, Sarkar discloses the method of Claim 6, wherein at least one of: inactivating a user with a maximum number of bytes transferred if all users are active; and changing an access resistance timer if all users are not at least one of active idle and having a maximum number of bytes transferred (page 7, paragraph 72, power required may be high, reduce number, required transmit power of requests; page 7, paragraph 73, conserve forward and reverse link resources).

Referring to **claim 8**, Sarkar discloses the method of Claim 7, wherein the access resistance timer determines if subsequent access attempts by a user after a previous attempt failed (page 7, paragraph 73, conserve forward and reverse link resources; page 4, paragraph 47, failure of transmission).

Referring to **claim 9**, Sarkar discloses the method of Claim 3, wherein the availability of resources message corresponds with at least one of an overload condition, increasing a number of active connections, maintaining the number of active connections, decreasing the number of active connections, increasing an available transmit rate, maintaining the available transmit rate and decreasing the available transmit rate (page 7, paragraph 74, maximum value allowed).

Referring to **claim 11**, Sarkar discloses the method of Claim 9, comprising controlling the reverse link by at least one of: managing a traffic channel in response to an average of the received signal strength indication rise and the filtered loading estimate; and managing the number of active connections in response to the average of the received signal strength indication rise and the filtered loading estimate (page 6, paragraph 61, scheduling; signal strength estimations, C/I measurements).

Referring to **claim 12**, Sarkar discloses the method of Claim 9, comprising: determining an available transmit rate in response to examining the at least two resources associated with the reverse link within a second time period, the second time period being an order of magnitude greater than the first time period (page 6, paragraph 61, signal strength estimations are made for scheduling, it is inherent that more than one estimation is made at different times).

Referring to **claim 14**, Sarkar discloses the wireless communication system of Claim 13, wherein the detector performs at least one of examining the resources in use within the first time period and examining the resources leftover within the first time period, and the at least two resources examined comprise at least one a sector loading, total interference, received signal strength indication rise, local and global frame error rate and distribution, filtered loading estimate, transmit power, received Ecp/Nt, received Eb/Nt, and power control outer-loop set point (page 6, paragraph 60, channel quality indications, C/I measurements, power control messages, control channel messages; two of these resources are interpreted as being in use and the other two as leftover).

Referring to **claim 15**, Sarkar discloses the wireless communication system of Claim 14, wherein the detector computes the sector loading by measuring energy in a pilot signal over total noise (page 3, paragraph 36, signal to noise), DRC values (page 6, paragraph 60, control messages), channel gain (page 13, paragraph 120, if independent channel gain then different power level transmission; it is inherent that channel gain is measured) and used Walsh code space (page 3, paragraph 29, available Walsh codes); and the received signal strength indication rise corresponds with a total received power at a sector (page 6, paragraph 61, signal strength estimations such as received pilot power), with a noise floor and with a threshold that varies to minimize adverse control reactions (page 7, paragraph 70, minimum quality of service guarantees, available transmit power, reduce signal to noise ratio).

Referring to **claim 16**, Sarkar discloses the wireless communication system of Claim 15, comprising: a sampler for sampling a received signal strength indication

(page 15, paragraph 152, various parameters stored, adjusted, determined, fixed); and a calculator for calculating a noise floor and the received signal strength indication rise in response to the sampling received signal strength indication (page 15, paragraph 152, various parameters stored, adjusted, determined, fixed; page 7, paragraph 70, minimum quality of service guarantees, available transmit power, reduce signal to noise ratio).

Referring to **claim 17**, Sarkar discloses the wireless communication system of Claim 14, the availability of resources message corresponds with at least one of an overload condition, increasing a number of active connections, decreasing the number of active connections, increasing an available transmit rate, maintaining the available transmit rate and decreasing the available transmit rate (page 7, paragraph 74, maximum value allowed).

Referring to **claim 19**, Sarkar discloses the wireless communication system of Claim 17, comprising: a controller for managing the reverse link by at least one of: controlling a traffic channel transmission rate in response to a relatively short term average of the received signal strength indication rise and the filtered loading estimate; and controlling the number of active connections in response to a relatively long term average of the received signal strength indication rise and the filtered loading estimate (page 6, paragraph 61, scheduling; signal strength estimations, C/I measurements).

Referring to **claim 20**, Sarkar discloses the wireless communication system of Claim 17, wherein the detector determines an available transmit rate in response to examining the at least two resources associated with the reverse link within a second

time period, the second time period being an order of magnitude greater than the first time period (page 6, paragraph 61, signal strength estimations are made for scheduling (it is inherent that more than one estimation is made at different times).

Referring to **claim 21**, Sarkar discloses a method of wireless communication (page 2, paragraph 23, wireless communication system) over a reverse link comprising: determining a loading on the reverse link (page 5, paragraph 50, measures the reverse link pilot quality, congestion); managing the reverse link loading in response to the determined reverse link loading by at least one of controlling a traffic channel data rate and controlling a number of active connections (page 6, paragraph 61, scheduling; signal strength estimations, C/I measurements); and broadcasting an availability of resource message in response to the determined reverse link loading (paragraph 138, common grants).

Referring to **claim 24**, Sarkar discloses the method of Claim 23, wherein the managing the reverse link loading is performed in response to an average of a rise in a received signal strength indication and filtered loading estimation, the average comprising at least one of a relatively shorter term and a relatively longer term average (page 6, paragraph 61, scheduling; signal strength estimations, C/I measurements).

Referring to **claim 25**, Sarkar discloses the method of Claim 21, wherein the step of determining a loading on the reverse link comprises: sampling the received signal strength indication (page 15, paragraph 152, various parameters stored, adjusted, determined, fixed); and calculating a noise floor and the rise in the signal strength indication in response to the sampling of the received signal strength indication (page

15, paragraph 152, various parameters stored, adjusted, determined, fixed; page 7, paragraph 70, minimum quality of service guarantees, available transmit power, reduce signal to noise ratio).

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 10 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sarkar (US 2004/0160914)** in view of **Chung et al. (US 2002/0151310)**.

Referring to **claims 10 and 18**, Sarkar discloses the method and the wireless communication system of claims 9 and 17 respectively (page 7, paragraph 71, respond to request; also, page 7, paragraph 74, maximum value allowed). Sarkar does not disclose that the availability of resources message comprises a reverse activity bit. The

examiner maintains that the concept that the availability of resources message comprises a reverse activity bit was well known in the art as taught by Chung et al.

In a similar field of endeavor, Chung et al show sending a reverse activity bit (page 2, paragraph 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sarkar to show that the availability of resources message comprises a reverse activity bit, as taught by Chung et al, the motivation being determining an optimal rate using the reverse activity bit (Chung et al, page 2, paragraph 17).

7. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sarkar (US 2004/0160914)** in view of **Holma et al. (US 2002/0136192)**.

Referring to **claim 23**, Sarkar discloses the method of Claim 21 (page 6, paragraph 61, scheduling). Sarkar does not disclose that the step of controlling a traffic channel comprises a relatively faster control of the traffic channel and the step of controlling a number of active connections comprises a relatively slower control. The examiner maintains that the concept of controlling a traffic channel comprising a relatively faster control of the traffic channel and the step of controlling a number of active connections comprising a relatively slower control was well known in the art as taught by Holma et al.

In a similar field of endeavor, Holma et al show that fast power control is used for modifying transmission power and that slow power control is used for data retransmissions, i.e. connections (page 4, paragraph 51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sarkar to show that the step of controlling a traffic channel comprises a relatively faster control of the traffic channel and the step of controlling a number of active connections comprises a relatively slower control, as taught by Holma et al, the motivation being an optimal power control method depending on the different services (Holma et al, page 1, paragraph 8).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaime M. Holliday whose telephone number is (571) 272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

***.

Jaime Holliday
Patent Examiner

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER